

REMARKS

A. Status of Application

Claims 1-19 are pending and are presented for reconsideration.

B. Section 102 Rejection

1. Claim 11 is Not Anticipated

Claim 11 stands rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,597,748 to Hietala *et al.* Applicant respectfully traverses.

Independent claim 11, recites, in pertinent part:

receiving an input signal;

a mixer for mixing the input signal with oscillator signals to produce an asymmetric baseband input signal having a real and an imaginary component.

Referring to the Specification, the input signal “has only a real component.” *See* Specification, page 12, lines 18-21; *see also* FIG. 9. In one non-limiting example, referring to FIG. 10, an amplified radio frequency signal (*e.g.*, real component) is applied to mixers **1003** and **1004**. This element, amongst others, is completely absent from the Hietala reference.

In contrast, the Hietala reference is directed to receiving signals via aerial 12, filtering the signals via filter 14, generating I and Q components of the received signals via amplifier 16, and providing the I component of the received signals to mixer 22 and the Q component of the received signal to mixer 24. *See* FIG. 1 and column 4, lines 4-13. Amplifier 16 cannot be construed as a mixer for mixing the input signal with oscillator signals to produce an asymmetric baseband input signal having a real and an imaginary component, as recited by claim 11. Amplifier 16 produces two separate and distinct signals: an I component signal and a Q component signal without mixing the received signal from aerial 12 with oscillator signals. *See* column 4, lines 6-7; *see also* FIG. 1. Further, the I component signal and the Q component signals are not an asymmetric baseband input signal.

Similarly, neither mixer 22 nor mixer 24 can be construed as a mixer for mixing the input signal with oscillator signals to produce an asymmetric baseband input signal having a real and

an imaginary component. In particular, mixer 22 receives the I component signal from amplifier 16 and outputs only an I signal. Mixer 24 receives the Q component signal from amplifier 16 and outputs only a Q signal. *See* column 4, lines 12-14. Even the combination of mixers 22 and 24 does not anticipate claim 11 because each of the mixers receives a separate and distinct input signal.

Because the Hietala reference lacks disclosure of explicit elements of the claims, it cannot serve as an anticipatory reference. Applicant respectfully requests the removal of the § 102 rejection to independent claim 11.

C. Section 103 Rejection

Claims 1-10, 12-19 stand rejected under 35 U.S.C § 103(a) as being allegedly unpatentable over U.S. Patent No.: 6,539,592 to Yang *et al.* in view of the Hietala reference. Applicant respectfully traverses.

Independent claim 1 recites, in pertinent part: “mixing the input signal with oscillator signals to produce a complex asymmetric input signal having a real component and an imaginary component.” Independent claims 5, 11, 16, and 17 each recites a similar limitation. As noted above, the Hietala references fails to disclose or render obvious the details of mixing the input signal with oscillator signals to produce a complex asymmetric input signal having a real component and an imaginary component. The Yang reference does not supply the deficiencies (as agreed upon by the Examiner). *See* page 4 of the Final Office Action.

For at least these reasons, neither the Hietala reference nor the Yang reference, separately or in combination, teach or suggest the elements of independent claims 1, 5, 11, 16, and 17. Therefore, independent claims 1, 5, 11, 16, and 17, and their respective dependent claims are patentably distinct over the cited references. Applicant respectfully requests the removal of the § 103 rejections.